

*Note on the Arterial System of the Scorpions.* By M. F. HOUSSAY.

The arterial system of the Scorpions is formed by two groups of vessels, one dorsal, the other ventral, united on the one hand by two short vessels at the anterior part and on the other by an unpaired duct situated in the median part of the animal's body.

*Dorsal group.*—From the heart, which is entirely seated in the preabdomen, two aortas start anteriorly and posteriorly. The anterior aorta passes without ramification to the cerebroid ganglia, where it suddenly terminates. From the termination issue four arteries—two which pass to the dorsal eyes of the cephalothorax, and two others which run to the chelicera, furnishing in their course a branch for the lateral eyes and another which is distributed to the muscles. The posterior aorta traverses the post-abdomen, and ramifies in a very homogeneous manner in all the segments. At the anterior part of each segment it gives off two very short arterioles, and in the middle of the segment two stouter arteries which bifurcate into two branches perpendicular to their direction.

*Ventral group.*—This is the most interesting from the relation which it presents to the nervous system. It consists of a lacuna which surrounds the oval ganglionic mass of the cephalothorax and of a vessel enclosed in the sheath of the abdominal nervous chain. The blood occupies the space enclosed between the two nerve-filaments, which run from one ganglion to another, and spreads around each ganglion in such a way as to form at this point a small lacuna.

From the cephalothoracic perinervous lacuna issue on each side five trunks, which run to the legs. The blood and the nerve of each leg are at starting in the same envelope.

All the ramifications starting from the abdominal canal issue at the level of the ganglion, and there also a nerve and a blood-current quit the common envelope together.

*Communicating arteries.*—These two groups are united at the anterior part by two vessels, which embrace the digestive tube. These two vessels envelop the commissures which run from the cerebroid ganglia to the ventral mass. They place the perinervous lacuna in communication with the termination of the anterior aorta. The blood is not diffused around the brain, whether it be that these ganglia have a special envelope, just permitting the issue of the commissural nerve-filament in order that it may penetrate into the blood-vessels, or that the common envelope is so closely applied to the nervous mass that the blood cannot penetrate between them.

The other communication between the two groups is established by a vessel which starts from the posterior aorta at the middle of the seventh segment of the preabdomen. It buries itself between the two small lobes by which the liver is produced into the post-abdomen; then it passes to the right of the digestive tube and opens into the perinervous lacuna at the level of the ganglion of the first segment of the postabdomen.

This relative arrangement of the circulatory and nervous systems, already indicated in *Limulus* and the Myriopoda, is thus found to extend also to a group of Arachnida.—*Comptes Rendus*, August 2, 1886, p. 354.